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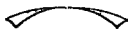
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RELICS
OF
ANCIENT AMERICA



FIRST PART



COMPILED BY
INER LAMB, A. B.

SAWTELLE SENTINEL PRINT.

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ERRATA

PAGE	ERROR	CORRECTION
3, 8, 17	antidiluvian	antediluvian
4	Tarter	Tartar
14	obsidion	obsidian
22	Abe	Abo
24	Hibrid	Hybrid
25	600	800
25	Pourtelles	Portales
25	Campollion	Champollion
26	Sequia	Sequoia

On page 7, ninth line, insert "also" before after.

On page 16 omit say after London. On page 22 omit o in Darius. On page 23 omit h in Serapis and one t in Mediterranean. On page 24 omit one r in eruption. On page 27, third line from top, for must read may and for 20 read 30. On page 27, fourth line for "but it" read "but the former." Close quotation at end of page 27.



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NOTE

This book was begun in A. D. 1869, from a desire to accumulate facts for comparison and reflection. Some were put down from memory. Some originals are not known to be in print. Tributaries receive their contents from reservoirs. "All the outs and half the ins are responsible for the present state of things."—(Thos. Chatterton.)

ERRATA

Page 23 erase a t in *Mediterraneum*.

“ “ for *Seraphis* read *Serapis*.

Page 25 for *arrine*, read *arrive*

“ “ “ *Shilow* read *-Shiloh*

“ 27 “ *intelligeny* read *intelligent*

“ 29 “ *Lyall* read *Lyell*

“ 30 “ *Show* read *Shows*

“ 31 “ *Etrucan* read *Etruscan*

“ 37 “ *journied* read *journeyed*

“ 38 “ *Macedas* “ *Macedas*

“ 26 “ *Dowley* “ *Dowler*

“ 49 and 50 for *palaolethic* read *palæolithic*

“ 49 3rd line from top, for “*Than* read “*Man*”
(Full stop after *implements*.)

PREFACE.—The author takes no credit to himself, unless it is in the notes. He has given credit to others, and if there is any omission he apologizes and will make corrections and give satisfaction.

RELICS OF ANCIENT AMERICA— FIRST PART.

Relics of Ancient America, and a few others, with notes made with a view to arrive at a correct solution of prehistoric times. The following four classes were compiled from Egbert Guernsey's History of the United States, with a notice of American Antiquities and Indian Tribes. Phila., 1869. The first class form Welsh and Scandinavian relics; the second Grecian and Roman; the third Egyptian; the fourth Antidiluvian; the fifth consists of a miscellaneous collection.

CLASS FIRST.

In Onandagua county, N. Y., is the site of an ancient burying ground in which timber of second growth was growing, judging from the reduced mould of timber lying around. The concentric circular grains of trees of first growth would guarantee a period of 100 years. In one of the graves was found a glass bottle and an iron hatchet edged with steel. The eye or place of the helve was round and projected like the ancient German axe. In the same town were found the remains of a blacksmith's forge, and crucibles such as mineralogists use in refining metals. In Scipio, Mr. Halstead has from time to time ploughed

up on his farm 700 or 800 pounds of brass which appeared to have been formed into various implements of husbandry and war. On this field forest timber was growing abundantly which had attained a great age and size. Mr. H. also found sufficient wrought iron to shoe his horses for many years. We cannot resist the conclusion that on this farm was situated a village of Danes or Welsh, who were exterminated by war hundreds of years before Columbus was born.

Note—Allowing 500 years for the growth of the forest timber, all these settlers of New York state, including those at the mouth of the St. Lawrence, must have been exterminated about the twelfth century by the second great invasion of Tartar hordes from the North.

On the Black River, N. Y., a man digging a well found a quantity of China and delf-ware at the depth of several feet. In Tompkins county, N. Y., Mr. Lee discovered on his farm the entire works of a wagon reduced to dust. On the flats of the Genesee river, on the land of Mr. Liberty Judd, was found a bit of silver about the length of a man's finger, hammered to a point at one end, while the other was smooth and square, on which was engraved, in Arabic figures, the words "in the year of our Lord 600"

Note—Dionysius Exiguus fixed the A. D. in the year 527 A. D. Hence 600 was within 100 years since the custom of reckoning by A. D. in Europe began.

The Welsh and the Scandinavians settled at the mouth of the St. Lawrence about A. D. 1000 to 1100. The traces of a Scandinavian, Welsh and Danish population are clear. They form a class of antiquities entirely distinct from the walled towns and mounds, and must have been subsequent to them. The forts of Danes, Belgae and Saxon were round. Those of the Romans were square. A tribe of Indians, a great way up the Missouri, speak Welsh and retain some ceremonies of Christian worship, but are like Indians in habits and appearance. Imlay in his History of America says this is universally allowed to be a fact.

At the head waters of the Red river is another tribe of Indians calling themselves Maccedas, having Indian manners, customs and speech, and who resemble the Welsh. Powell in his History of Wales

speaks of a lost colony in the twelfth century and of the voyage of Madoc, the son of Owen Guynneth, Prince of Wales, who went west and settled in a new country. A tribe of white Welsh Indians were found in Ohio who had a very old Welsh New Testament, written in Greek characters, which they could not read.

Note—The above mention of the twelfth century affords a clue as to when the extermination of the last settlements of New York state took place prior to the growth of the forests mentioned above, and to the discovery by Columbus. The Norwegians discovered Greenland A. D. 964, after which settlements were made at the mouth of the St. Lawrence. Modocs is a name of a tribe of Indians (compare with Madoc.) Lord Monboddie says this country (America) was known to the old world as early as the siege of Troy, B. C. 1184. Lief was the first settler in Greenland.

Snoro Sturleson speaks of Biorn of Iceland being driven by a storm and finding America and that in A. D. 1121 a Bishop Eric went from Greenland to Vineland (Labrador) to convert to christianity.

Bancroft (Native Races, Vol. 5) says there are Indian tribes in South America who have had the rites of baptism, circumcision and the purification of women at childbirth long before the Catholic missionaries went among them.

CLASS SECOND—GRECIAN AND ROMAN.

There are mounds and fortifications along the Mississippi anterior to the above and that belong to the third class. The mound-builders (Toltecs) would be still a more distinct class and contemporary with the Druids. The largest mound is near Wheeling, Ohio. It is 90 feet high, 50 rods in circumference, and filled with thousands of human skeletons. Judging from large trees, it has been deserted 1200 years, i. e. since A. D. 500-600.

Note—This date would place the mounds subsequent to the times of the Greeks and Romans, who would begin to be driven back by the first invasion of Tartars from the North, and who made warfare the business of their lives A. D. 600-700. The cliff dwellers lived in more dangerous times. In Dade county,

Wisconsin, are mounds of figures (human) with unnatural length of arms. At Marietta are extensive fortifications and a fort containing 50 acres of land, showing the power of the builders and the strength of the enemy, like the Roman forts described by Josephus (see Roman Camp). In the same county is a mound like a human figure, 35 feet in width, 6 feet in height, 125 feet in length and 140 feet from one extremity of the arm to the other. On the bank of the Muskingham river and at Circleville, Ohio, are the ruins of immense walls, forts, mounds, and wells of beautiful hewn stone, and according to the most scientific principles of architecture.

At Paint Creek, Ohio, are works of art more wonderful than any yet described, six near each other; one enclosure has three forts containing 17, 27, and 77 acres each, and 14 gateways from one to six rods in width. At the outside of each of these gateways is an ancient well from 4 to 6 rods in width at the top. Within the large enclosure is an elliptical elevation 25 feet high, 100 feet in circumference, and filled with human bones. The elevation is perfectly smooth and level at the top, probably where priests sacrificed human beings before the vast throng which congregated around the mound to witness the bloody rites. New discoveries are constantly being made.

Note—This seems as if the mound builders had raised a mound inside of an old Roman fort, showing that they came subsequently. The Druids at one time offered human sacrifices; that of virgins and widows was well known in India. There are forts, tumuli, mounds, roads, wells and walls, enclosing from one to 500 acres made of stone and earth, 20 feet in thickness and very high—works requiring too much labor for Indians ever to have performed.

The skeletons found in them are not like those of the red Indians, who are tall and slim, while these are rarely over 5 feet in height. The tallest and shortest of the human races are in Patagonia. The Pueblos, a short race, making more pretensions to civilization than the rest, are found in North and Central America. They could climb and needed protection, and are supposed to be the descendants of the cliff-dwellers, but without sufficient reason. Weapons of brass

have been found in several parts of America, both in Canada and Florida, and with curiously wrought stones, showing that the country was once well peopled with industrious and civilized nations.

Note—May not the mound builders, who were a rather short race, but not so much so as the Pueblos or town Indians, have been driven back by the first invasion of Tartars from the North, probably about 600 B. C., and after the barbarians had over-run the Roman Empire A. D. 200-300. The Danes, Welsh and Scandinavians, also short men, were driven back or exterminated by a second invasion of Tartars in the twelfth century A. D. In January, 1821, on the banks of the river Desperes, there were found by an Indian a Roman coin (presented to Governor Clark) and a Persian coin near a spring in Ohio some feet under ground. In December, 1827, a planter discovered in a field a short distance from Monte Video a sort of tombstone, with characters engraved on it. On removing it he found a small excavation formed of masonry, containing two ancient swords, a helmet, a rusty shield, and an earthen-ware vessel of large capacity, with writing in Greek, thus: "During the dominion of Alexander the Great, son of Phillip, king of Macedon, in the 63rd Olympd, Ptolemais." The rest was worn out. On the handle of one sword is a portrait of a man supposed to be Alexander the Great.

Note—By those foreigners who lived in Palestine the Olympiads are reckoned from the captivity of the two tribes. On the helmet there is a sculptured work of exquisite skill representing Achilles dragging the corpse of Hector round the walls of Troy, taken from Homer's Iliad.

In connection with the above Eratosthenes, the greek philosopher, mathematician and historian, B. C. 200, mentions Pythias, who lived in the time of Alexander the Great, as being a great philosopher, geographer and voyager, and that he made several voyages into the Atlantic ocean.

Note—As the first Olympiad began B. C. 776, and they were held every four years, it would be the 110th Olymp. in the time of Alexander the Great, unless they were at first held every 7 years, but it fits to begin it at the captivity of the two tribes 588 B. C. The

Greeks may have followed the custom then prevailing at Ptolemais.

CLASS THIRD—EGYPTIAN.

Lexington (Ky.) stands nearly over the site of an ancient town of great extent and magnificence, amply evidenced by the wide range of its works covering a great quantity of ground and a catacomb with niches, compartments, and mummies embalmed and in as great state of preservation as any that have been dug out of the tombs of Egypt 3000 years old. The catacomb was 18 1-2 rods in length and 6 1-2 in width and 7 feet high, and would hold 2000 subjects. It was found in the bowels of limestone rock 15 feet below the surface. The descent to the cavern was gradual.

Note—The Egyptians always excavated their tombs in the earth and along the sides of mountains of rock. The custom is purely Egyptian. That they were a maritime people is shown from the following: In B. C. 604 they, under King Necho, fitted out an expedition for the Phoenicians to sail from the Red Sea around Africa and return by the Mediterranean Sea, a distance of 16,000 miles, which they effected without the compass, for they were better skilled in the knowledge of the heavenly bodies than we are.

CLASS FOURTH—ANTIDILUVIAN.

The massive pyramidal structures found in Easter island were doubtless the work of a gigantic race who preceded the Egyptians, Babylonians, Assyrians and Chinese, for magnates walked the first. They knew nothing about glass and had the rudest hieroglyphics. They had to contend with inundations, earthquakes, carnivorous beasts and savage tribes. ‡ Two, 7 feet in height, were found in a cavern on Mt. Ranier (Wash.) They may have been antidiluvians on account of being giants. The remains of former dwellings, hearths, fire-places and bones of animals in immense quantities have been found along the banks of the Ohio many feet under ground, while above them are found the former habitations of men, and over them trees growing as large as any in the surrounding forest.

‡ Petrified.

On San Raphael island, opposite Santa Barbara, high up on the elevated land, are found an immense number of bones of whales. The top was level with the sea when the bones of whales were thrown upon it. The piles of shells were since the sea receded. Indians lived on shell fish. Fire-brands, split-wood, ashes, coal, tools, utensils of various kinds, brass rings, immense vessels of pottery of curious workmanship and remarkable size, have been discovered 80 and 90 feet below the surface. On the Susquehanna river a piece of pottery was found 12 feet in diameter across the top, 36 feet in circumference and of proportional size and form.

MISCELLANEOUS CLASS.

In digging a well near Cincinnati, A. D. 1826, the stump of a tree was found in a sound state 80 feet below the earth. The blows of the axe were still visible and the remains of the tree were firmly rooted in its original position several feet below the bed of the Ohio. Another stump was discovered near this place 94 feet below the surface, and on the top it appeared as if some iron tool had been consumed by rust.

Note—The sound state and rusted tools point to its being overwhelmed from the west, hence its depth is not all due to decayed vegetation. We infer that the bed of the river had itself arisen and left the stump below. In the section about Fredonia, on the south side of Lake Erie, utensils of various kinds have been found, also split-wood and ashes, from 30 to 50 feet below the surface and much below the bed of Lake Erie, which may have been since raised. Near Williamsburg, in Virginia, about 60 miles from the sea, the entire vertebrae of a whale was found and several fragments of the ribs imbedded several feet below the surface. It is affirmed by some that the sea encroaches on the land on the western coasts and retires on the eastern, but the land also rises on both coasts, from the fact that no mounds are found on the states bordering on the Atlantic and Pacific. If there is no great whirlpool at the south pole there is no reason why oceans should subside, therefore we infer that the land has risen; but if there is one, the ocean has also sunk. Query—Would not the top of Mount Raph-

ael's land have been more disturbed if the land had risen? In the same region, at depths of from 60 to 90 feet, the teeth of sharks have been discovered. From these and various discoveries from 50 to 100 feet below the surface we are led to infer also that the original surface of America may not have been much disturbed, but was suddenly overwhelmed from the west. The vast state of loam and clay, gravel and stone, which lie over each other evince from their unnatural positions that they were thrown furiously by water over the continent from the countries of the west.

Note—The sea must have been much higher and rolled its bottom over the east. This violent overturning could be ascribed to the shifting of the poles of the earth. Some suppose that alpha draconis was once our polar star, also alpha centauri. The former is gathered from the bearings of the Egyptian Sphinx. Relics of the reindeer are also found in the south of France. It can be calculated from the Delta that there was no Mississippi river 15,000 years ago. Quills of birds have been found large enough to admit a man's arm into the calibre, and the claws measure three feet in length. The footprints of very large birds are found on the rocks of Conn. The air must have been very much denser, the winds stronger, and the mountains lower when magnates, such as the *n* Dinornis of New Zealand, walked the earth. In systems of ancient marine deposits frogs were as large as sheep. The remains of a monster were discovered in Louisiana 17 feet under ground (probably on rocky mountain land), whose largest bone weighed 1200 pounds. It (the bone) was 20 feet long and was either a jaw or shoulder blade. The animal is supposed to have been 125 feet long, probably Behemoth the chief, of the ways of God in creation. The largeness of the creatures would intimate that the earth was much larger, the sea much higher and that the time in solidifying the globe and assuming the level, notwithstanding its various elevations and depressions and the increase of soil in the valleys, is slight, compared with her spheroidal oblate change.

Note—Vast numbers of human skeletons heaped up with broken tips of arrows in the skulls have been found several feet under ground in Louisiana with

plain indications of a seashore beach above them, and from which the sea of the gulf has receded. The skulls were prognathous and high at the occipital crown. At Lafayette, 12 miles south of Syracuse, Mr. Wm. Newell was digging a well in limestone and found a petrified man near the surface. It was 10 feet 2 1-2 inches in length; the thigh was 12 inches thick; the body was lying on its right side, with one hand at its back, the other in front and the left leg thrown over its right.

Note—From the position of the limbs the action of water is suspected. He may have been drowned in Lake Ontario on a bed of limestone when it was much larger, or from the deluge when violence filled the earth. In 1816-1823 A. D., a hill was cut through to form a canal near Moestich, in the suburbs of Liege. In excavating there were found an extraordinary number of bones, tusks, and molar teeth of elephants, horns of deer, bones of a species of ox (mastodon), and other mammalia, together with a human lower jaw and teeth (preserved at Levden) and at a depth of 19 feet below the surface, where the loess joins the underlying gravel in a stratum of sandy loam. The stratum was intact and undisturbed, but the human jaw was isolated, the nearest tusk of an elephant being 6 yards removed from it in a horizontal direction. Most of the other mammalian bones were found in or near the gravel, but some of the tusks and teeth of the elephants were met with much nearer the surface.

Note—The above would suggest the bed of an ancient river. The sandy loam implying a time when the water was shallow and vegetation grew on it. When the river was swollen the bones would be found higher up on the banks. Rivers passing along limestone would excavate and fill in with bones that were stranded on the shallows. A human skull has been found in a bone-cave (the Neanderthal in the Netherlands) and one in the Engis cave (Lake Zurich). These are said to be more ancient than any yet found, and according to Prof. Huxley approached the European type. A skeleton found in the island of Guadalupe (now in the British museum) is found to belong to some of the Caribs who were killed in battle 200 years ago, although petrified in limestone.

The following affords a clue as to the time compared with depth and with the nature of the ground. The foundation of Solomon's temple has lately been dug up at a depth of 90 feet below the surface. The layers of stone were 125 feet in length. The areas of the succeeding temples over it were much greater. This would give 2900 years for 90 feet of depth on a mountain being one foot in 413 years, allowing 20 feet for the original foundation. The head of the original brook Kedron known at the time of Christ has been found 60 feet below the surface. A depth of 4 feet will account for a generation of forest trees. Human graves were found 60 feet in depth in Louisiana and several feet over them oyster shells were scattered as if thrown up by a sea on a beach. On the banks of the Arkansas river 75,000 human skulls were found with metallic tips of arrows in them, of two races of men evidently slain in battle, in sand and covered over with several feet of sand and over it again several feet of clay, and over it again several feet of alluvium containing large forest trees. The skulls were narrow, elongated back and prognathous. In some parts of Nicaragua beads of lava basalt and chalcedony are numerous. Monstrous forms and shapes such as a coiled plumed serpent are found painted 40 feet up the perpendicular side of a precipice. They understood the making of pigments of clay and stone utensils and obsidian arrow tips. Their murderous hands could not draw fine lines. Their achievements in sculpture made them seek uses for them. Hence their reverence for feats of sculpture amounting to worship. In skill and taste some ancient pottery is superior to modern. They found it abundant in lake islands, i. e., crater lakes. The pottery was evidently made when lava was abundant, for they could have dug deep into the ground without the use of metallic tools. Hence the uses of funeral vases and tripods. Stags and alligators often form the ornamentation of their pottery. They are found in Central America. One ancient copper mask was found in Nicaragua supposed to be at least 3000 years old, very elaborately ornamented, a la Mosaic, at Uxmal (Brit. Encyc. vol. 4, p. 324). The device of a beast springing on the back of a human form and idols also occur

in terra cotta. The figures are studiously grotesque and monstrous, indicating a delight for the ludicrous or for a desire to banish constant fears. Bancroft refers the relics of Nicaragua to the 16th century B. C. Cremation indicates a very numerous aboriginal people, also their highly finished taste for ornamental vases. Calaveras county has also yielded many interesting relics of a past age of the same nature as those described in Tuolumne county. The famous Calaveras skull was taken from a mining shaft at Alta-ville at a depth of 130 feet beneath several strata of lava and gravel. Many stone mortars and mastodon's bones have been found about Altaville, but not under lava. The skull was of Pleiocene period, found as follows: black lava 4 feet, gravel 3 feet, light lava 30 feet, gravel 5 feet, then red lava 4 feet, then red gravel 17 feet, light lava 15 feet, gravel 25 feet, brown lava 9 feet, gravel 5 feet, in which the skull was found. Gravel implies rivers from melted snow.

An Indian arrow head made of stone as in our time was lately picked up from the solid cement at Buckeye hill at a depth of 80 feet from the ground and about one foot from the bed-rock.

Note—The Calaveras skull was found 40 feet deeper than the foundation of Solomon's temple and should not require 5000 years. A volcanic age could succeed and subside between it and the stone-mortar age. One foot from the bed-rock would imply (at Buckeye hill) a sea coast line not far off. Lava could be thrown 150 miles. A well executed representation of a deer's foot cut out of slate and a tube 5 inches long and one foot in diameter were found 30 feet below the surface over which grew a huge pine tree, the growth of centuries, at Don Pedro's bar, in A. D. 1861, in California. A petrified mammoth bone was found weighing 54 pounds 35 feet in depth in gravel, also human skulls in post-diluvian strata over 50 feet in depth (river bottom). Mammoth bones at Diamond Spring 40 feet in depth. Mortars were found at 100 feet in depth, also fossil bones and stone relics in the mines about Placerville. In Nevada county, at Grassvalley, stone implements have been found at different dates from 10 to 80 feet below the surface. A skillet, or saucepan, made of lava, hard as iron, was found at

Colima in 1851 A. D., 15 feet below the surface under an oak tree, which tree was not less than 1000 years old. A human forearm bone with crystalized marrow imbedded, was found in a petrified cedar 63 feet below the surface. A collar bone was found in the gravel of the great blue lead in 1857 A. D. not less than 1000 feet below the forest-covered surface. Mammoth bones at Columbia, in Stanislaus county, were found 35 feet in depth. A hyena's tooth at 60 feet in depth in Amador county. Two mortars from the bank of Yuba river 16 feet in depth. A pestle and mortar at 16 feet in depth in auriferous gravel, weighing 30 pounds and holding two quarts. An oval granite dish with the usual bones under from 20 to 30 feet of calcareous tuft, 18 1-2 feet in diameter and 2 1-2 inches in thickness. A stone bead of calspar was found with the bones of the mastodon under a strata of lava 300 feet from the mouth of a tunnel. In 1858 A. D., there was found in tunneling, a stone mortar at a depth of 350 feet from the surface of the earth, lying in auriferous gravel under a thick strata of lava. In 1862 another mortar was found at the depth of 340 feet and 1800 feet from the mouth of the tunnel. At the same level spear-heads from 6 to 8 inches in length and broken off where attached to shaft were found.

The work of human hands is shown to have been discovered in connection with the bones of the mastodon, elephants, horses, camels and other animals long since extinct. In the carving of pipes by the mound-builders the representation of natural objects is much more accurate than of the cliff-dwellers who must therefore have preceded them. Indigenous animals are truthfully represented, also Lamantin and Toucan. It is hard to think how the mound-builders could cut down forests, dig up earth, with only soft copper quartz, galena or obsidian tools. The bones of fowls and shells are found in caves along the coasts. Lance-heads broken by fire are taken from altar mounds. Elaborately worked vases are found. Their altars and religious mounds are made with great care and exactness. Several bushels of lance-heads of milky quartz were found in one mine. Pipes are cut from a single piece of porphyry or red pipestone. Bones of

animals are found worked into daggers, awls, beads and implements. Their knives were of obsidian; they may have had bone shovels and scoops. A piece of copper weighing 5 tons was found 15 feet below the surface under trees that were at least 400 years old. That lump of copper had been raised on skids and bore marks of fire. Some stone implements were scattered about, also hammers for making copper wedges; some stone hammers weighed 40 pounds. Much worn wooden shovels are often found. They could not have worked the mines in winter with their methods. The mound-builders (the Toltecs) were numerous, united, and agricultural. The modern Indians know nothing about those mines of copper. Hunters never build extensive public works. The earth had been well cleared of wild beasts. The animal carvers of the lamantin, elk and toucan preceded them as a race, probably before the deluge. All traces of architecture have disappeared except in South and Central America. Their earthworks show more perseverance than skill. Wooden buildings made by stone and copper tools seem impossible. Their monuments imply a wide-spread religious system under a powerful priesthood. Their altar mounds suggest sacrifices and human bones cremated to put in vases. Their temple mounds resemble the uses of the southern pyramids with reference to the pole star. Bancroft thinks the mound-builders came from Nahua. Their works were not built by a migrating people, but by one that had dwelt long in the land.

Notes—The Pueblos were not migrating. The results attained require from four to five centuries. If the civilization was indigenous and not imported a longer time would be necessary. A northern origin would imply a longer duration of time than a southern. None of their works (mounds) stand on the last formed terraces of rivers; those on the second bear traces of having been invaded by water. The last terrace required a longer time for formation on account of the gradual longitudinal leveling of the river-beds. There has been a complete disappearance of their wooden structures. Length of time is suggested by the decomposition of human bones well calculated for preservation. Skeletons are found in Europe well

preserved for 1800 years. Historic tradition would have been preserved had there been contact with a superior immigrant race. The fact that the monuments were covered in the 17th century with primitive forests uniform with those that covered the other parts of the country, that trees 400 years old exist over the monuments, and that equally large ones were found at their feet on and under the ground in all stages of decomposition, shows that the abandonment of the works must be dated back at least twice the age of the trees. The first growth on the abandonment of cultivated land is very unlike the original forest, both in species and size, and several generations would be required to restore the primeval forest.

General Notes—This article ought, perhaps, to have been put further on in the discussion of general causes. Dr. Wilson has shown that the mound-builders of Ohio were not red Indians. Dr. Aitken Meigs, of Philadelphia, has come to the conclusion, from the examination of 1125 skulls, that no skulls can be said to belong exclusively to any race or tribe; that none of them can be regarded as strictly typically, and that there is a marked tendency in them to graduate into each other more or less sensibly. Dr. Cummings, of London, in his book entitled "Moses Right and Colenso Wrong," says: "no traces of man have been found in the drift which is next below alluvium." Drift has been caused by water and ice and is therefore older than the deluge, which came from north to south and brought icebergs with it. Sir Charles Lyell says there existed on the earth some 40 or 50 thousand years ago a race of animals in the shape of man, who were able to make arrow heads and other rude implements of flint. The arrow-heads of the drift period are older than 6000 years. The ages of stone, bronze and iron implements are contemporary with firs, oaks and beach trees. In digging a tunnel recently in Tullumne county, a pestal and mortar were found in gold-bearing gravel many feet under ground. Those exhibited in the Los Angeles museum show exquisite skill in their manufacture. They were evidently heirloms and used for pounding either cereals or ore. There has been recently found in Arizona, 12 miles from Espagnola, a large subterranean cave, having a

watch tower above with 1700 compartments, and similar to the great cave of Kentucky. One cliff cave in Arizona has the imprint on the wall of a baby's chubby hand done when the plastering was first put on. Some of these cliff caves are now found with extremely difficult access, high above streams. Close to the cave near Espagnola two skeletons were found, a male and a female, 7 feet in length. The femur of the female measured 19 inches. The skeleton of a man resembling a red Indian was found 16 feet below the surface and below four successive layers of buried trees, while excavating for gas works at New Orleans.

Note—Four feet of depth accounts for a generation of forest trees. A human skeleton has been found in a quarry in North America, in limestone and petrified, 15 feet below the surface and lower than the relics of the rhinoceros. Query—When did the sandstone become hard, and how? and where are the animals that made the imprints in the tracks of 40 species of bipeds and quadrupeds, found in sandstone along the Connecticut river?

On the small island of Easter in the Pacific ocean, which contains about 2000 savages who speak the language of Tahiti, colossal stone statues are found on platforms of Herculean masonry, made with great skill and tact.

The flesh of the mammoth found preserved in the Arctic regions has been eaten by dogs in the last century. Semi-tropical animals have disappeared in the north.

PREHISTORIC RELICS (Antidiluvian).

Creston, Jan. 24th, A. D. 1891.—Workmen excavating a cellar in Adams county, Iowa, a few days ago came upon the memento of a long forgotten race. They struck what at first appeared to be a solid ledge of rock or coal, and sitting down to rest one of them began to pick at an apparent fissure, when a solid rock nearly two feet square disappeared with a dull thump. The men set eagerly to work, and removing the bottom of the pit, discovered a chamber with a fifteen-foot ceiling on walls 20 by 20 feet in extent, which

were of neatly seamed stone work. Ranged in rows on rudely constructed platforms were skeletons each with an arrow and tomahawk by its side, also earrings and bracelets of lead lying where they were dropped (by women?) and piles of what appeared to have been fur on the center of the platform. Each pile crumbled to dust as soon as exposed to the light. A number of tools made of copper were also found.

Note—This may have been a tomb. Tomahawks and scalping knives were used for making utensils out of skulls.

The following is taken from the "Return," Davis City, Iowa, for December, 1890: "An interesting find near Mendon, Ill., that puzzles the antiquarians consists of fragments of a musical instrument made of copper. The characters on the sounding board are unlike those of other alphabets—Hittite, Aztec or Mormon."

Some few years ago, two inscribed tablets were found near Davenport, Iowa, covered with peculiar figures, and among them strange hieroglyphic letters. The members of the Davenport Academy did not undertake to decide what alphabet it was, but the secretary and other members maintained that it was one with which the mound-builders were acquainted; that they were an ancient people and civilized enough to have an alphabet.

By a strange fatuity the editor of the American Antiquarian has come upon a find which is as puzzling as the Davenport tablets. It is in the shape of a musical instrument, or rather the fragments of one. The wood of it had decayed, but the copper which seems to have constituted the sounding board and keys, still remained in good condition. One of the strange features of the instrument is there is not a particle of iron about it. It seemed to have been a combination of a harp and violin. The shape is three cornered like a harp but the strings are stretched across a bridge and fastened to the keyboard at the end as on a violin, making a very unusual combination. There is no instrument like it in modern use, and nothing among the ancients that at all resembles it. The mysterious part of the whole relic is that there are ten hiero-

glyphic characters cut into the copper sounding board close by the keys. These hieroglyphics are unlike any musical signs known in modern times. They are unlike any known alphabet. They resemble the hieroglyphics found in the Davenport tablets over which the savants have puzzled themselves so thoroughly. They are also like those in the Greek grave tablet (time of Alexander the Great). They are not exactly counterparts, but resemble them. The letters on the Davenport tablets have been compared to Hittite, Phœnician, Samaritan, and other Eastern alphabets. They do not exactly correspond. The place where it was found is near a spring on the side of a hill three miles from the village of Mendon, and 20 miles from Quincy, Ill. The young man who found it was digging a post-hole for a hay-rick in his barnyard and came upon the copper-plate as he struck the clay. The family had owned the place for forty years. It was covered with forest when they took it.—Weekly Inter-Ocean.

The following is a relic of past ages taken from Demorest's Monthly for August, 1890: "In the lake region of southern Florida a canal was being constructed, in which a curious discovery came to light. About four feet below the level of Lake Dora a sand-stone wall was discovered, which led to further investigation, which settled the fact that long anterior to Columbus, and perhaps the Christian era, a race inhabited Florida far superior to the Indian. They were a people who dwelt in walled cities and who used flint weapons in war. Indeed, there are evidences of such a race inhabiting this continent many thousand years ago. It is depressing to think that over a whole continent a race or races far advanced in a certain kind of civilization should have melted away before tribes of savages such as the white people found in this country after the discovery by Columbus."

Note—This race may have been contemporary with Atlantis, and the tidal waves caused by its sinking have destroyed them to far inland, and then this event been followed by the invasion of the Greeks and Romans, and after they returned to have been fol-

lowed by the incursion of Tartars, warlike from birth. As the knowledge of the use of iron goes back to all historic times, and America was once inhabited by wild men who knew nothing about iron (the cliff-dwellers had iron smelters but stone axes), it follows that the knowledge of it marks the line between historic and pre-historic. It was only after the use of iron began that trees could be cut down and houses built, even log houses. The other metals are too soft. They inserted flint wedges in split growing branches. Intervening spaces must have been depopulated by cosmic disturbances before savage tribes could migrate into an unknown wild country with only flint arrow heads. Tame and carnivorous animals must have existed together from the first. The destructive forces of nature would aid man's supremacy on the earth.

CURIOUS DISCOVERY.

To the Editor of the Melbourne Argus:

SIR—I have discovered in a stony creek, 15 miles from Castlemaine, the bodies of three Aborigenes, quite whole and not wanting in the smallest details, which are petrified into solid marble. When I saw them I thought them actually alive until, on going closer, I noticed the eyes. They are in a sitting posture, and the veins, muscles, etc., may be distinctly traced through what is now a group of stone blocks. They are in a splendid state of preservation; even the finger nails, teeth, etc., are as perfect as they were 500 years ago. One of them has a stone axe by his side, without any haft. The group altogether is the strangest concern I ever witnessed.

Note—These men, in the stone age, may have sat down to rest and drank of the calcareous water of the creek; if so, they were strangers and may have been shipwrecked, or they may have been buried sitting so in limestone.

Record is found of the last inhabitant
of Tasmania.

Sir A. P. Gordon Cumming writes to the Elgin Courier: "In cutting the Inverness & Perth Railway

through the Lochinwandah Park on Altyre, we have unceremoniously trespassed on the privacy and retirement of a numerous colony of ancient toads. The cutting is here from 20 to 25 feet deep, the lowest part being from 10 to 18 feet of freestone and red conglomerate. The interesting old residents are found in the red freestone about 15 to 20 feet below the surface, where they certainly must have seen several 19 years leases out on the land above them. They are sometimes turned out by the heavy hand-pick or the great iron crowbar, but a blast of powder seems to cause the greatest upset, as a shot is sometimes the means of exposing as many as a dozen of the sleepy old fellows. They seem none the worse for their long repose, but giving a few winks at the new light thus suddenly let in upon them, and taking gasps of unwanted air, they leisurely and deliberately proceeded to hop and crawl down the line along the small water-course towards the lower fields. I have seen them in numbers, and some of the men have counted above 40 at once (Scotsman).

Note—Frogs are also found inside of redwood trees, where no air could reach them. Their sperm is carried up in clouds and rained down.

REMARKS ABOUT ATLANTIS.

In a conversation Euclid had with Anarcharsis, a Scythian philosopher, who had gone in search for knowledge and travelled from the far distant north to Athens, where he saw Euclid (B. C. 300). The latter spoke to him of an island as large as Africa, which existed beyond the shores of Europe, and which with all its wretched inhabitants was swallowed by an earthquake. After it sank the sea was so muddy that no ship could cross it for some time. This island, Atlantis, said the Egyptian priest with whom he also conversed, was situated in the western ocean opposite the straits of Hercules. There was an easy passage from it to other islands which lay adjacent to a large continent exceeding in size all Europe. These Atlanteans made irruptions into Europe and Africa, subduing all Lybia as far as Egypt, Europe and Asia Minor.

They were driven back by the Athenians to their Atlantic territory. Shortly after this repulse says Plato (B. C. 400), there was a tremendous earthquake and an over-flowing sea, which continued a day and a night, in the course of which the vast island Atlantis and all its splendid cities and war-like nations were swallowed up and sank to the bottom of the ocean. In sailing from Africa to South America the bottom of the sea can be seen for a considerable distance. The effect of the tidal waves along the coasts, reaching inland for a hundred miles, must have been very destructive. The descendants of Jeremiah, Baruch and the daughters of Zedekiah are thought to have been living (B. C. 560) on islands west of Ireland then. The date of the sinking of the Atlantis is not generally known—probably about Jonah's time, or later. Greek writers do not mention it, prior to Plato. It is suggested that a long ridge of mountains existed like a wall from north to south of Atlantis, mentioned in Jacob's prophecy. The repulse of the Atlanteans by the Athenians must have occurred before the latter rose to national importance, in B. C. 500, and after the time of the Greek poets, who do not mention it. The warlike Atlanteans may have given rise to the ambition of Phillip, Alexander, Sparta and Athens. Darius and Cyrus were forming their empires from B. C. 600 to 500. The ultima thule of the ancients must have been connected with Atlantis near Ireland.

MODERN ENERGIES.

At Lake Lehman (Geneva) through the Rhone loaded with detritus from the Alps, a delta has been formed of two miles in length and 900 feet in thickness, in 800 years caused by violent floods. The Mississippi deposits one cubic mile in 5 years and 81 days; so that it must have taken 14,200 years to form the present delta, which contains 2720 cubic miles. Hence 15,000 years ago there could have been no Mississippi river, and very different aspects of America. The coast of Sweden from Fredericshall to Abo in Finland rises three feet in 100 years, proved from the fact that not

only shores are now dry that used to be covered with low water, but because the shell-fish that now live in the Baltic abound in the soil which is about four feet higher than the water, and that at the distance of 20 miles from the sea; also from the fact that barnacles or shell-fish that attach themselves to rocks and walls, washed by the sea, are found fixed on high parts of the cliff. It is said the whole eastern coast of the United States sinks 16 inches in 100 years. The temple of Serapis has been shaken and raised 20 feet very gradually since St. Paul landed at Puteoli. The lower parts of the columns are perforated by mussel shells.

In June, 1759 A. D., the vast Mt. Jorillo, in Mexico, was pushed up in a few days 1682 feet above what was before a plain. The isle of Thanet is not now isolated, and the Goodwin sands (England) are now under cultivation.

In 1822 A. D., the whole coast of Chili was elevated three or four feet, and an area of 100,000 square miles (half the size of France) was raised above the sea. Inland it was raised 6 or 7 feet. The whole coast of Chili is rising 5 feet every 100 years, so that the ruins of the empires of the Incas may not have been so elevated as they now appear.

Note—Had the sea have sunk instead of land raised the effect would have been more uniform universally. Sicily is supposed to have been raised from the Mediterranean, since the present fish were created, for fossils on it for one and a half miles above the sea are identified with fish now found in the Mediterranean. The great limestone deposit of Aetna is one and three-fourths miles above the level of the sea, and above that are slaty layers of pebbly limestone, then creta or blue marl, and then gypsum or blue clay. There is reason to believe that Sardinia has risen 300 feet since men inhabited its shores, and that the west of Crete has risen 25 feet since the construction of the ancient port of that town. During the dry winter of 1853-4 the level of the water in the Swiss lakes sank down lower than ever known, so the inhabitants on Lake Zurich determined to enclose some land and raise its level by dredging mud from the neighboring shal-

lows of the lake. In doing this they discovered a number of piles driven deep in the bed of the lake, and also a great many stone weapons, implements, and rude pottery, a small bronze hatchet and an armlet of brass. Fire piles and relics have been found in nearly all the other Swiss lakes. At Wangen, near Stein, on Lake Constance, there are 40,000 such piles. In A. D. 1775, 60,000 people were killed at Lisbon by an earthquake in six minutes.

From 1801 to 1863, from what was before an eighth of a mile depth of sea in the Mediterranean, gradually arose Graham island (1831) to hundreds of feet above water and to three-fifths of a mile in circumference, and then disappeared from view to eleven feet of depth from the surface of the water.

In February, 1872, forty square miles sank seven feet in California. One thousand shocks were counted at Cerro Gordo, in Mono county. From 1682 to 1872 there were four serious earthquakes.

In 1692 Port Royal, in the West Indies, sank in one night. In 1722 at Java (Borneo) the scene of the greatest number of volcanoes, 40 villages were destroyed. Vesuvius has had twelve eruptions in 1800 years. In 1899 (June and December), California experienced several shocks culminating at San Jacinto.

One of the results of modern energies is the production of the cotton plant, probably due to so much carbonic acid gas in the air arising from the lungs of animals.

The development theory is disturbed by the following facts: Mollusks have degraded from compound to simple.

y A vertebrate fish has been found in the lower Silurian. Hybrids do not mix. Magnates have walked first in the descent of the natural order of creation. Each race has passed away before any signs of the next.

MISCELLANEOUS REMARKS WITH A VIEW TO ARRIVE
AT CORRECT IDEAS OF PREHISTORIC TIMES.

There have been four distinct races. The order of creation has been progressive but not connective. The size of human skulls has uniformly diminished from antiquity, while the nervous temperament has much more increased. In Seville's history of the tombs of Egypt, in works of Campollion and Young, it is said that no record of the tombs of Egypt is older than 2200 years B. C. At Thebes, in upper Egypt, there is scarcely any record older than 1900 B. C. The pyramid of Cheops, the largest structure of man, is placed at 2170 B. C. Allowing time for Lower Egypt to first become a great nation the creation would be placed at B. C. 5000, agreeing more with the chronology of the Septuagint. It is published that papyri have lately been found in the tombs of Egypt that date as far back (5000 B. C.) and crumble when light is admitted. The hieroglyphics of Egypt testify to the truth of the Exodus, but say nothing about a universal deluge. Portraits even to color of the Caucasian, the Negro, the Jew, and the Arab have been found in the excavations of Egypt as far back as 1500 B. C., about 600 years after the deluge according to the Mosaic chronology. The best recently published Atlas places Sargon of Chaldea at 3800 B. C.

The statement of Bancroft in Vol. 5 of "Native Races," that there are Indian tribes in South America who have had the rites of baptism, circumcision, and the purification of women at child-birth, long before the Catholic missionaries went among them, confirms the general tenor of the Book of Mormon, and discoveries have since shown that colonies of Jews did settle in Australia, S. India and Arizona, who became flourishing and then dwindled into the condition of Indians, and that branches of the houses of Joseph and Judah grew over the wall (Atlantis) and maintained the sceptre till Shiloh came.

The following is taken from the Brit. Encycl., vol. 1, "America":

"There has been found by Count Pourtelles por-

tions of the human skeleton and fragments of human handiwork, associated with the bones of the mammoth under circumstances that imply the greatest antiquity. The conglomerates in which the remains occur in the Florida coral reef is estimated by Prof. Agassiz to be 10,000 years old. But what is still more amazing is the skeleton found by Dr. Dowley beneath four buried forests, in the delta near New Orleans, which is said to be 50,000 years old, and the remains from California were found in a deposit beneath Table mountain which was formed in an old river of the Pleiocene or post-Pleiocene period. When this deposit (probably calcareous) was formed there was a river valley there, down which an overflow of volcanic matter was poured. Since that time the denudation has been so great and the volcanic matter so hard that the sides of the valley have been swept away leaving the valley bottom with its projecting cover (lava) standing far above the level of the neighbouring country.

Articles made by man occur under conditions indicating great antiquity. Thus along the north coast of Equador there are volcanic deposits which belong to the period of volcanic activity preceding the present, which may probably be referred to the post-Pleiocene period. This matter is arranged in terraces and in one of these terraces, now 24 miles from the coast and 150 feet above the sea, Mr. W. has found beneath the vegetable mould beds of clay with sand and gravel, which contain fragments of pottery. These beds, it is believed, were deposited beneath the sea, implying an elevation of 150 feet since the formation. On the coast there is a pottery-containing stratum which has been followed for 80 miles, and patches of a similar bed occur over a distance of 200 miles." (Vol. 1, Brit. Encyc., page 692.)

August 28, 1902.—There has recently been found a sequia tree on Mt. Brewer (Fresno county), along Kings river, back of Millwood, three miles from Converse basin, that measures 109 feet in circumference and 32 feet in diameter. It is just inside the government reserve. Twenty-seven years ago a man passing

through that region found a burnt stump, 40 feet in circumference, and from rings in it found that it was 4000 years old when it fell, and must have been 30 feet in circumference when Christ lived, but it must go far back of B. C. 6000.

Remarks of Mrs. M. A. Halleck, on *the former* "Ancient America," taken from the Christian Weekly:

"It is quite startling to be called upon to believe that our western states were supporting an intelligent settled and civilized people two or three thousand years ago in the days of Solomon, Nebuchadnezzar, Daniel and Solon, in Michigan, Ohio, Illinois, Wisconsin, Nebraska and other of our states from the gulf of Mexico to the far north."

On the Missouri river artificial mounds are found. There are no less than 10,000 in Ohio alone. They are made with great labor and some of them have the combination of squares and circles executed with geometric skill. In Adams county, Ohio, is a mound in the form of a serpent, 1000 feet long, with its jaws extended as if in the act of swallowing an oval mound while its tail lies in a triple coil. A fanciful people truly. That the mound builders were also miners and worked the copper mines of the northwest is quite probable, for most of the mines, if not all, that have been opened by miners of the present generation show that they had been worked before.

Mr. Baldwin tells us that near Lake Superior, in a new mine, a huge mass of copper, weighing nearly six tons, was found raised on logs of cedar, the ends of the logs showing plainly that an axe had been used. These logs crumbled on being exposed to the air (similar to the papyri of Egypt that were 5000 years old). Near by lay a stone hammer weighing 36 pounds and one of copper weighing 36 pounds and another of copper weighing 25 pounds. On the top of the mine were trees showing 395 years of growth, while the decayed trees of a former generation were seen lying across the pits. This certainly points back to a great antiquity and must have been coeval with the mound builders. The area of ground supposed to have been worked by these miners is greater than that occupied by the present generation.

Note—This great area suggests a populous civilized condition not far from the scene, and strong men (giants) to wield such hammers, also much growth of cedar and therefore a mountainous region, with traffic on the lakes. The query is, why was the work broken off and the tools deserted? Being 400 miles from the sea coast the light was cut off from the entrance while the logs were still hard. Iron was known in the early days of Greece B. C. 700, and probably to the cliff-dwellers. Stone hammers would never be used where iron was known. It is a question whether these settled, industrious, civilized people antedated the mound builders, who were a short race from five to five and a half feet in height; but a generation preceded them (the mound builders) who were from 7 to 9 feet in height (antediluvians?).

It is hinted in some ancient books that an intelligent people from the east came in ships, B. C. 1000, and settled in Central America and Mexico, where they remained peaceable till they were strong enough, when they conquered the country, established their civilization, built their mounds and finally spread themselves up the Mississippi carrying their mound building propensities with them; that they remained here till a barbarous people from the north—who might have come over what is now Behring Straits—poured down upon them, and after a terrible struggle of 13 years drove them back to their southern country.

Note—Was this the first invasion of Tartars from the north? Here we have the first introduction to our Indians. There are evidences that years ago some states of South America were civilized, and it is surmised that the enlightened people who came in ships were from that end.

According to the Book of Mormon, about from A. D. 320 to 340 the Lamanites were 20 years driving 800,000 Nepites from South America to New York state, a distance of nearly 2000 miles. Mounds therefore, as natural sepulchres, ought to be found in the line of march. They are found in fourteen states.

viz.: Ohio, Indiana, Illinois, Wisconsin, Kentucky, Tennessee, Mississippi, Alabama, Louisiana, Georgia, Florida, Texas, Missouri and Nebraska. (See "Mound-builders," in People's Encyc.) Nebraska seems out of their course, but they ought to be found in Mexico. Relics that crumble when light is admitted, are from 3000 to 5000 years old. The works of ancient miners show remarkable skill in discovering and tracing actual veins of metal, and indicate great sameness of method.

The skeletons of the mound-builders always perish when exposed to the air, like the papyri of Egypt, that were 5000 year old, while well-preserved skeletons, 2000 years old, have been taken from burial places in England and European countries less favorable for preserving them.

Forest-trees do not grow at once, over ruins. An annual successive growth of 800 rings were counted in the trunk of a tree, mentioned by Sir Charles Lyell and others, found at Marietta.

END OF PART FIRST.

We have evidence that ships coming from the West have been wrecked on the western coast of South America, and the monuments of the Pacific Coast have no identity with the now elevated ruins of the cities of the Incas, who had an empire and a capital, the centre of which was devoted to sacred buildings. They conquered the Chimus, who had an empire on the east coast of South America, and a capital city covering an extent of twenty miles. Their empire might have included the Island of Atlantis, and a large continent on the Pacific Ocean. They may have made invasions into China, as well as Africa.

We do not know the origin of the tall race of the Patagonians, unless they were Tartars, who were a taller and stronger race than any that ever came from Europe. They trained themselves to war, and made a business of it all their lives.

At the time of the destruction of the Roman Empire, great hordes of Vandals (Arians in religion) inhabited the north of Europe and Italy, about A. D. 200.

The Chinese must be a comparatively recent nation, of indigenous growth, as there is no intimation of their immigration into America in early days. Ignorance of perspective is characteristic of them. They still count by twos, and use the unreformed method of Egyptian writing, i. e., up and down, as well as from right to left. They built their wall to defend themselves from the Tartars, but the latter have always ruled them. It appears from published accounts that the ancient inhabitants of Central America had the vigesimal system of notation, as discovered from their monuments.

MISCELLANEOUS REMARKS.

The hieroglyphics on the most massive buildings of Central America are the crudest of all. The darkness of their chambers shows ignorance of glass. They carved well on rocks. A large piece of solid isinglass was found in one of the mounds.

Note—Isinglass is a gelatinous, transparent, fishy substance, capable of hardening, and it may be also an old name for mica.

The ancient Etruscans of Italy had almond-shaped eyes.

The Aryan race preceded Babylon, Egypt and China.

The Hindoos first propagated the decimal system of notation. We received it from the Arabs.

Indians usually all have black hair—a sign of the motive temperament.

The greatest variety of color and hair is found among the Polynesians.

The domestic animals of Australia and America have all been transported from Europe, except a species of dog in America.

Wild tribes found sufficient occupation in hunting and roaming.

Wild horses are found in parts of the earth very remote from each other.

Relics show that mammoths existed in the northern regions, but mastodons in the equatorial and southern. Elks, elephants, mastodons and mammoths once existed in both Europe and America. Camels in America. The rhinoceros in North America. Crows are said to be very rare in South America. The mastodon was domesticated for its milk till the third century A. D., in America, as shown by brass tablets found at Kinterbrook, Pike county, Illinois, which contain the history of the Algevas, and also from Solomon Spaulding's Roman MS., found in a cave in Ohio, written in Latin, and which fell into decay before it could be deciphered. (Parchment does not follow the rule of skeletons.) An account of the former is contained in the Olive Branch, published in 1829 A. D., at Springfield, Illinois, by H. Aldrich.

All the great destructions of the human race can be traced to war, famine, pestilence, cyclones, volcanic eruptions and earthquakes. It is uncertain whether comets are destructive.

(Taken from the St. Louis Democrat, of Nov. 13th,
A. D. 1885.)

It gives an account of some excavations on the Mt. Ararat Farm, east of Carrolton, Ill., where the bones of 32 Indians were unearthed. They were not a diminutive race. Some of the thigh bones were 16 in. long, and some of the skulls 24 in. in circumference, which means a head measuring 25 or 26 in. in circumference. The average head of the white man to-day, in New York, is 22½ in. in circumference. So culture has not enlarged the size of the head. The Engis and Neanderthal skulls are the oldest known, and belonged to the Stone Age. Prof. Huxley described them as being well-formed, and considerably larger than the average European skulls of to-day, and in the cubic capacity of the whole. In A. D. 1886, they measured many of the skulls unearthed at Pompeii, the remains of Romans who lived 2000 years ago, and found them larger in every way than those of the present century. They were no doubt motive-vital as to temperament. In the museum of Switzerland, in 1887, "we measured the skulls of the ancient Lakedwellers of that country, and found them larger in all respects, but particularly in the forehead, than those of the Swiss people of the last 50 years. The average circumference of the skulls we measured in the suburbs of Paris was 21.1-2 inches, which is about an inch more than that of Parisians who have died in the last 50 years."

Note—A large head holds power; a small one exercises power. A large, massive, compact head indicates the possessor of wealth and motive power. Activity of brains and the nervous system have very much increased. "Men shall run to and fro, and knowledge shall be increased."—(Bible.)

REMARKS ABOUT THE ANCIENT EMPIRES OF SOUTH AMERICA.

In Peru are not only aboriginal monuments of

ruined temples, but of works of public utility—aqueducts, bridges, and paved roads hundreds of miles in length. The remains of the great temple of the sun at Cuzco are still imposing. It consisted of a principal building, several chapels and interior edifices, covering a large extent of ground in the heart of the city. Aqueducts opened within the sacred enclosure. There were walks among shrubs and flowers of gold and silver, made in imitation of nature.

The Peruvian Empire was a concretion of families, tribes and nationalities, reduced by conquest, probably involving lands on both sides of the coast, now sunken.

The capital of the Chimus, on the east of South America, covered over 20 miles, and is the marvel of South America. They were conquered by the Incas. The capital of the Chimus has immense huiacas or pyramidal structures. Some are half a mile in circuit. There are vast areas shut in by massive walls, each containing a tank, shops and municipal edifices and those of the people, furnaces and smelting works, and each is a branch of a larger organization. The Temple of the Sun there is 812 feet in length, 470 feet in width at the base, and nearly 150 feet in height. Josiah Priest says they had unbounded empire; and as in the Old World, empire succeeded empire, from the jarring of an unwieldy and ferocious mass.

The American Encyclopedia says, under "American Antiquities:" "We may deduce an age for most of the monuments of the Mississippi Valley, of not less than 2,000 years."

The principal ruins of Mexico are those of temples and structures dedicated to defensive purposes. Those of undoubted high antiquity are most massive in character, and display remarkable evidence of tact and skill. Torquemada estimates the number of temples in the Mexican Empire at 40,000. One of these temples is 680 feet square at the base—covering an area of eleven acres, or nearly equal to the great pyramid of Cheops, in Egypt. The pyramid of Cholula,

in Mexico, has four stages, and when measured by Humboldt, was 160 feet high, 1,400 feet at the base, and covered an area of forty-five acres.

The temples of Central America, like those of Mexico, had features peculiar to themselves. The terraces were less in size, but covered with more extensive buildings, upon which aboriginal art exhausted its utmost capabilities. They had broad stairways, massively built, the walls being of great thickness, and from one to four stories, rising smaller, being themselves pyramids. They had narrow corridors and dark chambers, often stuccoed with figures painted in bas-relief. Idols and altars are found in the chambers, and evidences of ancient sacrifices.

Carved monoliths, peculiar to Honduras, are found at Copan, which has the highest antiquity in all Central America. At New Granada are structures supported by columns; also rude, uncut stone-work.

PREHISTORIC PERIODS—GLACIERS.

Eight hundred feet is the maximum thickness of the Swiss glaciers at the present day; but when the erratic blocks were deposited by the Jura, they were seven or eight times as long, and varied from 1,000 to 3,000 feet in depth—more than half a mile.

The human races that fabricated the flint tools of the Somme valley and Brexam caves belong to the latest period, or the second continental condition of the British Isles.

The quality of these cliffs on each side of the valley show that England and France were once united. There is every reason to believe that the Grampian hills of Scotland were once enveloped in one great winding sheet of ice and snow. Grooves, produced by glacier abrasion, are found in many places under such circumstances that render it impossible to suppose them to have been produced by stranded icebergs.

It may be averred that there was once a mainland from Australia to Mexico, because their inhabitants, including the Feejee Islanders, begin their new year

the night the Pleiades are longest visible—a custom well known to ancient Babylon and Egypt.

NOTES ON NIAGARA FALLS.

(Taken from the New York Tribune of 1892, relating to prehistoric times.)

“From several different surveys, from 1842 to 1875, the southernmost point of the horse-shoe falls has receded 100 feet, while in the brink of the American Fall, differences of 40 feet were apparent. The southernmost point of horse-shoe falls was found to travel south nearly 9 feet every year. In course of time, the American Fork will be obliterated, transforming Goat Island into a peninsula, the smaller islands appearing as little hill tops. The fall will be higher than to-day, because the present descent of 50 feet over the rapids will be added to the height of the cataract, less the number of feet needed to give the necessary current to the river below, which at present is 15 feet to the mile. The fall will never reach Buffalo, on account of the underlying rock, which is soft. The horse-shoe falls recede now (1882, A. D.) more east than south.”

Since we have discovered that all the work of excavation could have been accomplished in about 3,000 years, our computation of the human race has settled down to reasonable figures which give to the beds of sand and gravel in which the oldest human implements have been found, an age of from 40,000 to 60,000 years.—Julius Pohlson.

THE ANTIQUITY OF EGYPT, WITH REGARD TO THE DATE OF THE BUILDING OF THE PYRAMID OF CHEOPS.

The Seven Wonders of the World cites Heroditus for the statement that the pyramid of Cheops was built B. C., 900. The American Encyc., under “pyramid,” explains it thus: “It was finished in its present form at that date as a mastaba, or large rectangular tombstone. It, with many others, has existed since B. C., 3,000, as far back as the Shepherd Kings, and

long before the dynasty of Menes. It was a custom peculiar to Egypt, to excavate rocks for sepulture."

This is a good reason for believing that papyri found in Egyptian tombs in rocks can be traced back to very great antiquity. This gives support to the chronology of the Septuagint.

"The Seven Wonders of the World" says that "2,000 years before the Christian Era, the Egyptians had learned to transport the heaviest blocks of granite, that were from 20 to 30 feet in length (Amer. Encyc.), for a land journey of 600 miles, and a voyage of nearly 700 miles, and to cut and polish them with a precision we cannot surpass, and with a degree of science unequalled from that day to this," which reveals a long anterior life that could lead to such maturity. We are lost in admiration as to the means employed by the ancients in lifting a block of solid stone for an architrave, which was 21 feet in length, 6 feet in width and 7 feet in depth, and place it safely upon the capitals of columns 40 feet from the ground.

As the pyramid of Cheops is on the confines of Lower Egypt, while Thebes, which subsequently became the capital of all Egypt, was in Upper Egypt, where Amen and Amon, his wife, were first worshipped, it follows that Memphis must have been well peopled and civilized in B. C. 1800, when the Israelites went there, whose exodus is set down at B. C., 1495.

From what we know of the growth of peoples when they become great, Memphis must have had a population of 30 millions as early as B. C., 2500, and long before Thebes had matured into the capital of all Egypt.

The great stones that built the pyramids must, from the earliest times, have been brought down the Nile from Upper Egypt. Hence we infer that Lower Egypt first began to be settled B. C., 3500. This computation would throw the Creation back to at least B. C., 5000.

There is a singular expression in Genesis, made soon after the statement that the ark rested on Mount Aarat, viz: "As they journeyed westward." The pec-

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ple must have been very numerous to have attempted to build a tower that would reach to heaven. India and China may have been well peopled before they journeyed westward, for Shinar is S.S.E., instead of west, from Ararat, supposing that to be the Ararat referred to. Apropos, tablets have been discovered and deciphered, showing the ruins of a very large city, 12 miles west of the Euphrates, and near the Persian Gulf, and stating in hieroglyphics that Noah reared a temple there. It is supposed that Sepharvaim, Hena and Ivah were names of antediluvian cities.

SUPPOSED EARLY HISTORY OF ANCIENT AMERICA.

The cave-dwellers would be the first known wild savage men, followed by the mound-builders—more civilized. We find tribes of American Indians are very much scattered, and found everywhere, from north to south. They may be considered the remains of three distinct civilizations; The first, from B.C., 1500 to the sinking of the Atlantis, consisting of Egyptians, Assyrians and Celts. The following would be the empires before and during these civilizations and semi-civilizations: The Chimus in South America and Atlantis would be the first in order, after the gigantic, Herculean race of the Pacific Ocean. "These (Chimus) would exist a thousand years, followed by the Incas, their conquerors in West South America. Then would come the Toltecs, in Central America, followed by the Aztecs in Mexico. The second civilization would be of the Greeks, Romans and Northmen, from B. C. 600 to A. D. 400.

The breaking up of the Roman Empire, whose mines became exhausted or inoperative, would cause the return home of the Romans.

Then would pour down hordes of Tartars from Siberia, when the Behring Straits were not so wide, meeting another race (the Toltecs?) increasing from the South.

The third civilization would be due to the Danes, Welsh, Belgians and Scandinavians, settling first at the mouth of the St. Lawrence. This civilization

would be opposed by another invasion of the Tartars, as evidenced by the driving west of the Modocs and Macedas beyond the Mississippi.

The existence of several civilizations is shown by the number of distinct languages (not dialects) existing among the Pacific Islanders. Early languages were not alphabetic, but representative, symbolic, hyperbolic, syllabic, and polysynthetic, without analysis or precision. It is published that there are 760 distinct languages among the Indians of America and the Pacific Isles, although only numbering a few millions, more than all the rest of this world together. It has been supposed from this, that America, with its submerged continents, was the original cradle of the human race. If so, it must have preceded the Adamic race.

ITEMS OF THOUGHT TO BE INVERWOVEN.

1. The return or recall of the Romans to their own country, would induce the Tartars to destroy the then existing civilization.

2. The argument for evolution, arising from the growth of human language, has a strong bearing on the subject of chronology.

3. Commerce depends greatly on literature.

4. Nations that do not cultivate the literary arts must necessarily fall back on human passions.

5. According to Mrs. Helen Wilman's correlation of forces, the quality of a person's thought is revealed in his surroundings.

6. All things are possible with God, but the balanced culture of one's faculties is his best resurrection.

7. It is very fine philosophy to say that no particle of matter can ever be destroyed, and that the chain of causes and effects is complete.

8. Faith (as embodying sentiment) may be man's greatest requisition, but reason has its quota of influence.

9. The use of figurative language is elevating.

10. The following are examples:

"God has made of one blood all the nations of

the earth;" "Except ye eat my flesh, and drink my blood, ye have no life in you;" "The hour cometh and now is, when all they that are in their graves shall hear the voice of the Son of Man, and they that hear shall live;" "Every eye shall see Him."—(Bible.)

EVOLUTION, GENERAL AND SPECIAL.

If there is anything in the life of man that represents the Tree of Life, it is the science of the brain, which receives Divine revelation, and of which the cerebrum is essentially opposite to the cerebellum.

The cerebellum, or sexual instinct, might appropriately be called the tree of the knowledge of good and evil. It is only in proportion as a man understands and overcomes the animal propensities, that he becomes a gentleman. Disinterested sexual affection can be soon dissipated by moral power.

The power of the cerebellum is soon controlled by the science of the cerebrum and of organic quality. Regeneration, generically, is to be born of a certain fluent spirit. The figurative is a stepping stone to mental evolution.

Swedenborg teaches that man's regeneration is taught by the Mosaic accounts of the Creation and Deluge.

The Encyclopedia Britannica says: "The first chapter of Genesis is the work of an interpolating hand, and not as old as the second chapter, beginning at the 4th verse, and that it cannot, in the nature of things be literal."

The deluge is an antetype of baptism, which is the type of a still greater antetype.

The following thoughts throw some light on the Mosaic accounts of a literal deluge: There could have been a vaporous ring round the earth, and no rain or clouds. There could have been few seas, much more land, and low mountains.

Prof. Edison says: "We do not know one hundred thousandth part of one per cent. of the wonders of the world," as e. g., the development of the magnetic trance condition."

The Bible account says: "The ark rested on Mt. Ararat three days after the waters began to abate." But the Andes and Himalayahs are two or three miles higher.

Exhalations from the waters could have destroyed all life—even carrion birds and sea-gulls, who live on fish, rising to breathe. Again, God could have dispersed the creatures of the ark and marsupials to Australia, just as Philip was taken up by the Spirit and found at Azotus. To our finite conceptions, laws seem to govern the universe; but the will of God is greater than all His laws, and it is that will that governs the universe.

Swedenborg says angels and spirits can come into a man's sphere, and speak his language without having learned it, and that better than himself. Adam and Eve are made to speak and reason the same day they were created.

Again, the remains of much more gigantic marsupials are found buried deep in the ground in Australia.

Again, the one window referred to in the ark may have been only the skylight window.

But the Great Eastern was as large as the ark, and could not contain 1,600 species of animals, 5,000 species of birds, 150,000 articulata, and several hundred of mollusks. Or is creation continuous?—in a subordinate degree?

There are trees in the equatorial regions of South Africa and South America that are shown to go much farther back in antiquity than the deluge. They might have passed through it.

Light pumice stone is still found on the mountains of France.

The supposed Ararat has sides too steep for the descent of animals. The olive does not grow near it.

In Hebrew, expletives and exaggerated expressions are very common. The word "God" is attached to anything above the common.

C. A. S. Totten, in "Our Race," admits that the Himalayahs never were covered—that all breathing

creatures would have been asphyxiated. In translating from Hebrew, the same word may have two or three meanings, which can only be determined from the context. Earth is put for land, as e. g., "Ephraim shall dwell in the midst of the earth." Family tribe and nation are changes for the same word. The arrow-heads of the drift period are acknowledged to be older than 6000 years; but as the Septuagint places the Creation at more than 6000 B. C., the drift period could have been coeval with the Mosaic Creation.

The skulls of Calaveras and Tuolumne counties are the oldest in America. Obsidian is mainly found at 130 ft depth in California.

There is a Chaldean work on astronomy that dates back to B. C. 3800. Papyri are found in Egypt 3000 B. C. Tablets at 1300 B. C. Works of a wild man are traced to 4000 years. Prehistoric times end with the discovery of iron and smelting. Clay was abundant near Volcano Lakes.

RECAPITULATED.

It is certain that wheels for making pottery were used 1800 B. C. at Thebes in Upper Egypt. Lower Egypt must have been colonized at least 1000 years before, but pottery made without wheels, ie., hand-made, is found for three ages of man before that, viz, of stone, lead, brass and iron. This fact is universally agreed to by scholars. Man is contemporary with alluvium which existed after the drift and glacier periods had ceased, and is called the pleistocene period. Terraces of alluvium are found 90 feet above the level of rivers and were first formed by their means and then increased by vegetable decay.

The oldest human skulls in Europe, larger than those of succeeding ages were found in the Engis, (Swiss) and Neanderthal caves (Netherlands.) In the Swiss Lakes thousands of Piles are found preserved deep in the beds of the lakes that once served for supports of dwellings both for security and convenience. The size of the Swiss Glaciers were first a

half a mile in extent and is the period allotted to flint-tool and arrowhead makers. A human skull has been found in England beneath the bed of a river that has worn through rock for a depth of 100 feet (see Pottery in Brit. Encyc.) and Geikies' Prehistoric Man, one inch of soil in 20 years would give 2,400 years. Marine shells are found 300 feet above the level of river banks, also 50 and 60 feet below the surface at the delta of the Mississippi River, below a beach once made by the sea. In Tuolumne Co., Cal., while digging a tunnel 60 to 70 feet below the surface a pestal and mortar were found in gold bearing gravel. No ruins, even of adobe are found in the two lower terraces of the Mississippi but only on the upper one. Marine shells are found on mountains in California 400 feet above the present level of the sea. No boulders are found on the Rockies. Drawings are found on the tusks of mammoth and forms of elks. Specimens of ancient Irish pottery are of superior make than those of England. America had fewer ancient animals than Europe and Asia. Wherever we have gone we have found human beings. A tall, black race has recently been discovered on the frontiers of Abyssinia. Pictures on the amphora of Corinth indicate a high degree of perfection, in the knowledge of human nature, beauty and physiognomy strongly tinged with animal sexual magnetism. One writer (Pohlson) allows 40,000 years for the flint tools and arrowheads found in the sand and gravel beds of the undisturbed strata of the Niagaro Falls.

The Following as taken from the Los Angeles Times of July 11, 1900 was itself taken from the New Haven Correspondence, Boston Globe of July, 1900: "Dr. Wieland found the skull of a turtle (amphibious) on the banks of the Cheyenne Stream in the Black Hills, country, now in the Peabody Museum at New York. It is of the triassic period, ten million years ago. It is 29 inches in length and 16 inches in depth. Of all living animals the turtle is the only one whose

anatomy is the same as it was ten million years ago." This turtle must have weighed 8000 pounds. It was imbedded in a cretaceous formation and was once covered with a salt water ocean. In geological times when the development of the turtle reached its zenith, turtles were from 12 to 14 feet in length and weighed from 4 to 6 tons. They preyed upon all living creatures of their times. The Monosauria were no match for it in speed and strength. The Hesperornis, the carnivorous ostrich that lived in the ocean was its prey (see Hugasaurus). The archæopteryx, the missing link between the birds and reptiles, feared the turtle. The Pyranodon whose head was 3 feet long, furnished food for it.

n NOTE—In sandstone along the Connecticut River the tracks of 40 species bipeds and quadrupeds are found. The Dinornis was 16 feet high, an immense bird of New Zealand. Ripple marks are found in sandstone quarries. Coprolites are the fossil dung of great lizards. Petrified reptiles are found in a fossil state which contained the scales of fish which were devoured before any quadrupeds existed. The fetiches which were cut out of stone with lava made knives are now too hard to be impressed by files. They must have been long in mineral water, yet they are found high up on mountains.

The cliff dwellers must have been very ancient because metals were known to the antediluvians but hardly to them. The ideas of the cliff dwellers in drawing forms are too rude for postdiluvians. They could work on limestone where high cliffs are found. The Pemas and Pnueblos [town dwelling Indians] unlike other Indians, cultivate patches of ground. The Apaches and Navajos are free booters. The latter have been called the Jews of the Indians.

The San Francisco Examiner of July 25, 1900, gave an account of the finding of an ancient ruin between Espagnola and Bland, about 25 miles from the former place. Only the top was discovered; the

lower stories being buried. There was a roof on the top which was flat on which people lived. There were found on the top in one room signs that the people had been cooking a meal when they vacated it. It was a large building containing 1500 rooms, two or three stories high. They found pottery thick with designs and superior to anything found among the Navajoes of Arizona, also cloth of antique makes and stone axes. Some of the things crumbled on being exposed to the air; a sign of the greatest antiquity of 5000 or 6000 years. There were buffalo bones (in Arizona and New Mexico) in large caldrons of copper. Had they been driven out by an enemy these things would have been taken. Their territory indicates signs of having been very populous. Sufficient number of years passed away in solitude to have allowed time to bury the buildings. The stone building was well shaped and constructed. Could its desertion have been from an earthquake and tidal waves on each side before the border states existed? Four thousand years would have been sufficient to bury the building but the copper kettles remained on the roof for that time. The stair cases were gone.

EXTRACTS FROM AUTHORS.

Philological objections to Lvell's doctrine about the mines of Lake Superior and the mound builders of the bottom lands.

(Taken from Public Opinion)

Among the evidences brought forward to prove the antiquity of man, the paucity of relics of his own person compared with the abundance of the sites of cities proves the people to have been agricultural. The shells of the Gulf of Mexico, the carved figures of the Manitou and Toucan indicate that they held communication with the sea, while the native copper proves that they either worked the mines of Lake Superior or had communication with some tribe that did. That some ancient people worked the mines in ques-

tion, there can be no doubt, for abundant evidences of such workings have been discovered and that too on a scale quite commensurate with the works of mound-builders whether these monuments be posterior or anterior to the bottom lands. They are newer than the Post-Pleiocene terraces on which they rest. If they be older than the alluvial bottoms: some remains of man ought to be found in that alluvium. The deposits of the alluvial plains of the delta of New Orleans are of about the same age i.e. are recent, and there according to Dr. Dowler some charcoal and a human skeleton the cranium of which is said to belong to the aboriginal type of the red Indian, were found. This discovery was made in excavating for gas-works at New Orleans through a succession of beds almost wholly composed of vegetable matter such as are now forming in the cypress swamps of the neighborhood. The skeleton was found at the depth of 19 ft and beneath 4 successive layers of buried trees. Dr. D. estimates the deposit that covered it to have been 50000 yrs. in forming. The following is taken from Baldwin's Ancient America (on Moundbuilders) Harper Bros., N.Y.

Mr. Stephens said of the ruins of Kabah in Yucatan: "The cornice running over the doorways tried by the severest rules of art recognized among us would embellish the architecture of any known era. Intelligence much skill in masonry and much labour were required to construct the artificial ponds to supply water, being cemented and well constructed at their bottoms and the long subterranean passages that lead down to the pool of water. The reservoir is 450 ft. below the surface of the ground and the passage leading to it 1400 ft in length. Buildings are pyramidal (proof against earthquake) and hundreds of ft. long containing rooms 60 x 16 x 11 ft. Some Buildings are 800 by 100 ft. with decorations abundant and very rich. They were sun worshippers and knew geometry, astronomy and fortification. There were subterranean terraces and rooms of great length now under modern cities. There was a triumphal arch at Kabah (ancient Maya the chief town of Mayapan). The cardinal points were known and they

had a standard of measurement. There were 36 shafts or columns in parallel rows and balustrades of entwined bodies of huge serpents. Shrubs or vegetation grew on mounds or terraces of hewn stone. There are walls 274 ft. long 30. thick and 120 ft. apart. The colored paints on the walls are still bright of green, red, blue, yellow, and reddish brown; wooden lintels are common at Yucatan but not at the other ruins. The palace of Palenque (modern name) or the Governor's palace was at Uxmal in Yucatan. Herrera says there were so many and so great, stately buildings that it was amazing. The Aztecs were overthrown by the Spaniards, the Toltecs preceded them and the Colhuas the Toltecs.

The above description suits antediluvian times of no rain; it suits a very numerous, strong and settled people knowing the art of chiselling and hardening a species of soft stone and who lived very long. The Toltecs would be driven from Ohio by hordes of barbarians of the north. The Natches Indians a supposed remnant of the Toltecs are sun worshippers and maintain a perpetual fire. Mr. S. continues, "in one room of a great building at Uxmal, walls were coated with a very fine plaster of Paris, equal to the best seen on walls in this country. He says the laying and polishing of stones are as perfect as under rules of the best modern masonry. The elaborate sculptured ruins of Palenque are 7 or 8 leagues one way and half a league the other. (24 by 1 half miles) This would claim to be the seat of an empire that preceded those in S. America. The cross is a common emblem found in the ruins. It was known to the Phoenicians and is found in the ruins of Nineveh around the neck of an early Nimrod-king. Four sacred signs are found: the crescent, the star, sun, the trident and the cross. It is also found on oriental prisoners figured in Egyptian mummies. To degrade this religious emblem, the cross, Alexander the great ordered 2000 of the principal citizens of Tyre to be crucified. Palenque is full of inscriptions. Blocks of stone 6 ft. in length, compose the great wall of Copan 624 ft. long. The Pyramidal building it supported has a wide terrace 160 feet above the river on which great trees

are growing 20 ft. in circumference 2000 years old. There are obelisks, piazzas, and a building like the Coliseum of Rome. Some of the edifices combine the solidity of Egypt with the elegance of the Greek. Mosaics at Mitla are more ingenious than plain in relief of the purest design, it is a maze of courts and buildings. There are roads along the Andes one ran the whole length of the empire from Quito to Chili. Another starting from this at Cuzco went down to the coast and extended north-ward to the equator. They are built on beds or deep understructures of masonry from 20 to 25 ft. in width made level and smooth for paving and macadamizing with pulverized stone & lime and bitumen, used in all their masonry. On it was a very strong wall more than a fathom in thickness; built straight over marshes, rivers and vast chasms of the Sierras through rocks, precipices and mountain sides, a marvellous work cut through rocks for leagues. Great ravines are filled up with solid masonry, Rivers were crossed by suspension-bridges no obstruction encountered which the builders did not overcome. It was as long as the two Pacific Railroads. The old city Gadiz (now Cadiz) founded B.C. 1100 is still inhabited. It was built over Tartesus which had been in ruins long B.C. Query: How long had Palenque's old ruins existed when that first Tyrian ship was driven across the Atlantic a distance of about 3000 miles?

The following is taken from the *Scientific Man*, vol. 2, No 6 N.Y. A.D. 1880 on the time that has elapsed since era of the Cave men of Devonshire by Mr. Pengelly Esq. F.R.S. showing the connection between certain formations in Kents Cavern with the peat-bogs of Denmark. The time calculate.d from inscriptions in Kent's Cavern Devon-by the formation of stalagmites on them A film of stalagmite accreted on the inscriptions since they mere cut glazes them slightly over. On a boss of stalagmite there is the following inscription: "Robert Hedges of Ireland Feb. 20th, 1688. Another is dated 1604 what years have elapsed since have made no appreciable change and yet the calcareous water has been constant ly dripping. There is no shadow of doubt that the ins-

criptions are genuine. Carbonate of lime accreted on the inscriptions 250 years old form not more than a 20th part of an inch where it is formed with unusual rapidity. It would take 5000 yrs. to account for the granular stalagmite of only an inch and for 60 in. 300000yrs. The old cave men left behind 366 flint tools. Note, this indicates that the tools became gradually covered and the cave men were there in successive ages. Below the stalagmite came a deposit known as cave-earth 4ft thick. In the stalagmite we have the remains of both extinct and recent animals and flint implements. The cave earth contains our great harvest of them.

(Neolithic polished flint). Man made the bone implements and amongst them are numerous bone needles with well-drilled eyes. Below cave-earth is another stalagmite of much greater thickness, being 12 ft. while that above cave-earth nowhere exceeds 5 ft. The lower stalagmite is of totally different character to that in the higher level, we will term it crystalline and the upper granular, in every instance where a bone is found it is crusted over with a thin film of stalagmite. Where it lay was the upper portion or floor of the cavern for a very long time. During that time the drip from the roof brought the stalagmite matter down forming a film round the object. The process was interrupted by a layer of cave-earth. Above we find another bone or stone under precisely the same condition and that goes on through the entire thickness of the cave earth. When we remove one of the large rocks of limestone found in the cave-earth and find bone under it we find that bone crusted, the broken part lying in juxta position on a firm unyielding surface. The bone was broken by that limestone falling on it. The caveearth was introduced very slowly and represents a very large amount of time. We then go further back to the old crystalline stalagmite and then to the Breccia below that which is formed of material utterly unlike the caveearth. There is a different fauna and a different construction of surface. The palaeontological evidence is the cave lion, the lynx felis the hyena fox, wolf, cave-bear, glutton and the badger. There are

implements of a ruder kind found in the lower deposit, (Breccia) a totally different kind of implement. Man was in Devonshire, the contemporary of the extinct cave-mammals. The implements found in Kent's cavern are of the Palaeolithic kind, i. e., of the stone age prior to the bronze age. The implements in the cave-earth are Neolithic and belong to the hyænine period. But those in the Breccia below the crystalized stalagmite belong to the Ursine period of Kent's cavern. The former are delicately made, never polished, and all made of flakes. The latter are massive, made invariably of flint-nodules, and not flake. With the nodules they struck off a plank or flakes of flint, and fashioned it into a more delicate instrument. Though they are all Palaeolithic, they belong to two different types.

Passing from that, I ask you to accompany me to Denmark, where the naturalists have been able to get a chronology out of its peat bogs and which is a land of beech trees. Below the beech there came a time when there was no beech, but oak, of a particular kind, having leaves of a long footstalk called pedunculated. Below that there is another form of oak, with no footstalk, called sessile. Below that the Scotch fir is the most prevalent. Here we have a chronological series. Let us endeavor to attach a time value to them. We are sure the beech period represents 1800 years, for the Romans inform us that Denmark was a land of beech trees. We may say 2500 years for one species of tree in Denmark, prior to which there was no beech. Prior to that there were two kinds of oaks; prior to oaks, firs. The Scotch fir will not now grow in Devonshire, even when coaxed and petted by the agriculturist. If we take these periods and multiply them by 2500, we get 10,000 years for the time of these trees. How does this accord with archaeological evidence? The iron tool comes down to the beech period, no further. The bronze tools go below the first oak and half way into the sessile variety. Below that down to the bottom

of the firs we have the neolithic unpolished flint tools, as found in the cave-earth of Kent's cavern, Devonshire, all of flakes. Though thousands of years are absorbed in this way, and we go back to the lower levels, we have not got back to the Kent's cavern, upper or granular stalagmite (prior to which 300,000 years were reckoned.) Now let us coordinate that with the animals in the cavern.

DENMARK (FROM UPPER TO LOWER.)

1. Peat bog.
2. Beech period, 2500 years, iron tools.
3. Sessile, oak and bronze tools, 2500 years.
4. Pedunculated, oak and flint tools, 2500 years.
5. Firs, 2500 years. Total, 10,000 years.
6. Bottoms of bog, black mould, limestone, contemporary with No. 10 below.

KENT'S CAVERN.

7. Granulated stalagmite 5 feet, 300,000 years.
8. Cave-earth, all flakes, neolithic tools, wolf and glutton.
9. Crystallized stalagmite, 12 feet thick, a total of one million two hundred thousand years.
10. Breccia, Palaeolithic tools; lion, bear, lynx; 2,200,000 years passed away before the Breccia man-made implements are found and consisted of nodules and flakes; then there was no English channel.
11. Wild Archaic man.
12. Alluvium (from rivers.)
13. Drift.
14. Pleistocene periods.

Query.—Were the pedunculated trees contemporary with polished or unpolished implements? According to this account the palaeolithic were the polished and the neolithic unpolished.

The nodules gradually fashioned the flakes more delicately, till only flakes were used, and remained unpolished, found in the cave-earth. The whole of the bog period does not take us back beyond the neolithic implements. They take us back through the iron and bronze ages, but fail to reach the palaeolithic tools in the Breccia. When we have

got there, we are in but the black mould period. Below the black mould we come to the great deposit of the granular stalagmite, formed at the rate of 1-20 part of an inch in 250 yrsars. and there are five feet to account for. All that amount of time absorbed, and we are back into the cave-earth period, representing a prodigious amount of time, during which vast herds of cattle lived in Britain. We go further still, when there was no hyena and nothing indicated his presence, and none of the bones gnawed after his particular fashion. When we remember that the hyena was a cave hunting animal, the fact that it was not found in that cavern is tolerable proof that the hyena was not in Britain. After the Breccia and Ursine period (palaeolithic) Britain was connected with the continent. The English channel was dry and the hyena, and perhaps his companions, came to Britain from France. Far back as these successive times take us, and they do it to almost bewilderment, they do not take us back to the beginning of man in Britain. We have brought three witnesses that concur in the antiquity of man; viz—Geology, Paleontology and Archaeology; but not from the geographical or climatic argument. Take any view you like, whether the view that the Archaic man was self-developed into the Palaeolithic man, and they into the Neolithic; and they into the metal tool making, you cannot get rid of the vast amount of time for man's existence on the earth.

The following is taken from Geo. W. Peck's "Melbourne and the Chincha Islands," published by Chas. Scribner, N. Y., Nassau street, 1854: He describes the Isles as having immense deposits of guano on islands now low, and that at a depth of 17 feet in the guano there were found large pieces of granite chipped off, while there is no granite within twenty miles south, and that on an island. The inference is that a continent once existed there, having mountains of granite, and that they were submerged by lightning shocks, which broke off the pieces of granite. The three islands referred to are about a mile in length

and covered with guano, the highest being 400 feet above the sea level. The guano consists of the decomposed remains of seals, sea lions, pelicans and penguins. Seals crawled to the top to die.

The following is taken from Major C. C. Bennett's pamphlet on "The Sandwich Islands," Bancroft & Co., S. F., 1903: All of the northern part of the American continent bears unmistakable signs of a prehistoric civilized man. Who cut the mighty roadways through the mountains of Arizona? Some of these roadways are 100 miles in length, and parts (now) a mile in depth? Who built the immense canals that water the plains and valleys west of the river Gila? Who built the houses that were found in the cliffs bordering on the canals and discovered over 300 years ago by Spaniards? It is thought by visitors that when these houses were built, they were nearly level with the water, but they were built so long ago that the water has worn the rock and earth down a hundred feet? Who made the sword that was found at Negro Hill near Mormon Island, 32 miles east of Sacramento south of the American Island? A shaft was dug 30 feet in depth to bedrock. At the bottom of that shaft was found a sword $2\frac{1}{2}$ feet in length and $2\frac{1}{2}$ in. in width. Everything but the metal had decayed. It was very rusted and found to be composed of the best steel and temper. When I was mining on Coon Hill, I sank a shaft. When 95 ft. in depth I came upon a stratum of charcoal, went through that and 5 ft. more of sand-gravel, and came to a second stratum of charcoal and four feet further to the bed of rock. No better coal was ever burnt. It was equal to stone coal, as it had been buried so long. Whence came those strata of charcoal of four feet in thickness with five feet of sand and gravel intervening? The Spaniards gave an account of a civilized race that lived on the N. W. coast as early as A. D. 500.

[Sentinel print, Sawtelle, Calif., U. S. A., A. D. 1904.]

They lived there till A. D. 1000, when they emigrated to the river Gila and the table lands of Mexico, and there by some means became extinct, probably by a mighty upheaval of the earth. Houses, fortresses, churches and villages are being unearthed there. They were followed by Aztec races, who handed their traditions down to the Mexicans, who wrote them up in a published account and placed them in the old Spanish Archives of Guam. Whence came the pigs, turkeys and chickens that fed Captain Cook's men? They were found all over the group of islands. The use of hoop-iron and nails had once been well known there.

Note—Mt. Jorillo in Mexico was pushed up in A. D. 1759, to 1682 feet above what was before a plain at that location referred to.

THE AGE OF MAN FROM THE STANDPOINT OF LANGUAGE.

We find that in the most advanced nation of antiquity writing was in a very crude state, and not regarded as of much account and that the growth of language and writing has been very gradual in them all and little lost. Writing first began by drawing objects of nature. The letters of the alphabet have arisen from these symbolical representations. The first real men would represent their wants by sounds associated with objects of nature most common to them, being exaggerated into metaphors and hyperbolics one idea would be expressed by two coupled words, as a mouth and wisdom for wise words, "water and spirit" for a fluent spirit (intellectual affection). This particular evolution seems uniform in antiquity. The use of a dual number is indicative of a refined state and the sight being familiar with pairs of things, similar to the rhythms in the earth's crust and the alternations of successive layers of strata. The earliest hieroglyphics are the rudest of all. Accuracy in grammatical expression is the perfection of language. New generations improved on the past.

There are indications also of independent centers of original hieroglyphics. Sanscrit, the first known general language of civilization, became the parent of several branches. The conquests of Alexander and Cæsar did much to extend their language. Political intrigues for power retard the progress of civilization. *Concordia parvæ res crescunt, discordia dilabuntur* (Cicero).

THE AGE OF THE EARTH.

(Taken from the N. Y. Tribune and the Los Angeles Times, California.)

Lord Kelvin's reiterated estimate is based on the supposed rate of the cooling of the earth from a molten mass, between 10,000,000 and 20,000,000 years. Biologists declare that five or ten times as long a period is needed to allow for the slow development of man from the lowest fossil forms of life, hitherto discovered. The geologists after trying to form an idea of the rate at which sedimentary rocks are laid down to-day, say that the strata already in existence could hardly have been deposited in anything like 20,000,000 years. Professor G. H. Gilbert of Washington suggested that possibly a closer study of certain rhythms of geological time, that have been observed by geologists might be serviceable. In many places in the earth's crust the deposits betray a more or less symmetrical alternation. In the coal regions, for instance, sandstone and shale are situated one above the other in a monotonous succession. Elsewhere rocks which are of sedimentary origin are curiously banded with streaks of a different hue. Sometimes their markings are as thin as a sheet of paper, but they always suggest a change of circumstances at comparatively regular intervals. In Scandinavia there are alternate deposits of forest trees and bog-moss, which indicate that the earth's surface was first covered with one and then the other, in a systematic manner. The recession and advance of glaciers, too, have superimposed one stratum of gravel

on another, in some instances seventeen successive times. A somewhat similar stratification of deposits at the mouth of big rivers led to the supposition that there were a number of subsidences there in consequence of the weight of accumulated materials (as in deltas.) Professor Gilbert referred to the notion that the retardation of the earth's rotation from tidal waves might cause an alteration between the flattening of the poles and an approach to sphericity. The resulting changes of level would modify the condition of those continental areas that would thus be exposed at one time and submerged at another. No attempt has yet been made to use this standard in estimating the time represented by adjacent geological deposits. The phenomenon of 'the precision of equinoxes is computed to be complete in a period of 21,000 years. At one stage of this cycle the Southern hemisphere has hotter summers and colder winters than the Northern, and in 10,500 years later the situation is reversed. It has been supposed by Croll and others that local climatology would be so altered by this agency as to leave some impress on geological record. The principal mineral constitution of the sea is chloride of sodium. Professor Joly thinks that all of that sodium came from rocks at a uniform rate from the action of weather. He concludes: "Eighty or ninety million years have elapsed since the surface of the globe was first subjected to the denuding action of rain."

Note—The accumulation of deltas may have caused the subsidence of a vast area giving rise to the deluge mentioned in Genesis. The successive strata of charcoal mentioned by Major Bennett may have been boggy moss covered over while in a scorching heat from volcanic action by sand and gravel brought down by rivers of snow, and the land there being a very long time acquiring a depth of ninety-five feet.

REMARKS ABOUT ANCIENT CENTRAL AMERICA

When the conquest of virgin Yucatan by the Spanish Christians was made they found and burned twenty-seven large MSS. of deerskins. Later a priest named Lando found and preserved a MS. which is known to be 1300 years old. It is called the Troob MS., and in it is found a confirmation of the great island Atlantis. The Maya priests made good paper from barks and roots of certain trees on which they wrote about their various sciences. Archæology was one of their studies, so were medicine, astronomy, chronology and geology. Maya history tells us about the history of Yucatan. That country fairly overflowed with people 20,000 years ago. Some of them emigrated to South America. Others went across the narrow strip of land connecting Yucatan with Africa, and hundreds of thousands were drowned when that island sank beneath the sea. There are undoubted evidences that the Mayas were in the Mississippi valley 30,000 years ago. Their graves have been found at the Bayou Labourche in Louisiana in excavations sixty feet below the surface. These graves were covered with oyster-shells, as though from the beach of the ocean. From the house and temple builders of South America the Mayas wandered to the Mississippi and became mound builders. Their language habits and complexion changed. They overran the Ohio, Mississippi and Missouri valleys and the great copper mines of the northern lakes. They built their mystic mounds in several places in parts of forty-seven triangles with the described lines half a mile in length. By means of mounds they divided a circle into fractions with mathematical exactness. They also had instruments for establishing the true meridian. Professor Walters took observations on the North star. He found the variations of the needle at that point to be $9^{\circ} 11' 14''$. This meridian cut the center of a row of small mounds for more than a mile. This undoubtedly shows a knowledge of astronomy. Professor Walters says there were many renegade immi-

grations from Yucatan before the main overflow. From these, mixed with more Mongolian-looking tribes from Behring Straits, came the Zunis Moquis, Pueblos, etc. But with upspringing of the mound builders, these tribes sank into the background. The mound builders were pushing to the West. The Mayas (main overflow) to the East. At first they were 500 miles from each other. The line of battle reached from Nebraska to the Gulf of Mexico. Strangely diverse weapons are found in mounds facing each other at Neosho (Kansas.) In the eastern mounds are weapons of granite and quartzite. In the opposite ones obsidian arrow-heads and glass-spear-heads.

Note—Here is the earliest mention made of glass. The mound builders were making maple sugar at the time the attack took place. The crystallization of the sugar carbon was the same as now. The skeletons were of small, compact-built men. A great many skulls were of the Egyptian type—long and narrow. Some skeletons were taller than others. These were the Mayas. They were narrow skulled, long from the frontal to the occipital bones, with high cheek bones, strong jaws and teeth, sharp protruding chins and large physique. Knives made of flint and teeth are common. Bones of birds were found in some vessels of large size. There were bowls and pieces of pottery. The skulls belonged to the Maya-Toltec race, prognathous, coarse, occipital.

The following is taken from the Los Angeles Herald of March 8th, 1901:

A man prospecting about the base of Mt. Ranier, Oregon, at length reached a point 7500 feet above the sea level. In rough granite covered with a crust of rough lava he discovered an opening which showed evidences of human handiwork. The cave was 12 feet high and from 8 to 60 feet in width. The walls had been polished and covered with many hieroglyphics, and figures made by human hands. The main passage was explored for a distance of five

miles. Passages led off in many directions. There were boiling water springs, blocks of ice, sulphur springs, cold and hot springs. Two tubs had been cut out of stone near them. There was a well thirty feet deep with a circular stairway leading to the bottom. After devious windings about the bottom of this well an immense underground lake was discovered, and at the very entrance was a canoe, apparently of cedar, but petrified, and chained to the wall by a heavy metal staple swivel. The bank of the lake was explored a mile and a half one way and a little over that distance the other, but its extent could not be determined. Another passage led to a flight of stone steps down a distance of sixty feet. Along these were several vaults. One of them had a small lid resting loosely against the main slab, which enclosed it. On removing it and entering, the chamber seemed dry, but was immensely cold with much ice inside. On a large slab, side by side, were two huge human figures, that of a woman measuring over seven feet and of a man seven feet ten inches in length. Both bodies were frozen solid and in a perfect state of preservation. The man had a black beard and long dark hair, and on his left wrist was a gold band an inch and a half wide and a quarter of an inch thick. On the band were engraved an antelope and a number of characters. The woman had long hair, and from one ear hung a heavy pendant of gold. Near the body were the dismembered skeletons of two children and there were numerous bones throughout the cave. There were metallic vessels of different kinds and tools, several hammers weighing from twelve to fifteen pounds. The above story is told with a minuteness of detail and with great plausibility.

PREHISTORIC BATTLE GROUND OF ARKANSAS.

(Taken from the New York Journal, December 5th, A. D. 1897, Prof. M. J. McGee, author of the United States Bureau of Ethnology.)

The story of the prehistoric battle in Arkansas is

certainly very extraordinary. They could not have been Indians. An entire confederacy of Indians in this country never numbered more than 30,000 souls including women and children, and that number means a maximum of 6000 available fighters. The largest war party ever gathered on the plains consisted of about 1000 Kiowas, Comanches and Kiowas-Apaches. The migration of the aborigines of this country was made by small parties and by short journeys. Acres of skulls are found. There are 75,000 skeletons of men, women and children, almost every one pierced by an arrow or javelin. It was fought, says Professor Walters, archæologist, on the banks of the Arkansas river in Indian Territory, between the mound builders and the Mayas, that wonderful race that swarmed through the narrow neck of the isthmus from Yucatan, overran Mexico and fought the native races (mound builders?) back from the lower Rocky mountains to the Mississippi river. These relics were first noticed in building the Kansas City, Pittsburgh and Gulf railway through the Choctaw nation. He has established the line of crude fortifications by means of which they (the mound builders) defended themselves from the great lakes southward. Up from Yucatan the Mayas were coming year by year. Here were the descendants of that great island of Plato, the lost Atlantis, also referred to in the inscriptions of Yucatan, overflowing northward to beat down the more rude, the more agricultural, but far less civilized mound builders. This was 12,000 years ago, *i. e.*, about 4000 years before the Adamic creation. The descendants of the Mayas existed in the Toltecs, and in the cross-bred differentiated mound builders, the Aztecs. Professor Walters found thirty acres literally paved with these relics. It could not be a burying place, for it was in the quarternary period. Almost all the skulls had been pierced with darts and arrow-heads. In one large head he found thirteen agate arrow-heads, a chief's, undoubtedly, who died fighting desperately.

All the thousands of skeletons were found buried beneath sand, and above the sand were two distinct strata formed in different geological periods.

Note—The mound builders may have been an offshoot from the Mayas and emigrated early into the states, built their mounds, crossed the Mississippi and reached the great lakes, when they were driven back by Tartars or yellow invaders till they met the Mayas in Arkansas. (Just as the Matabeles in Africa were an offshoot from the Zulus.) From what is known of the history of Egypt and even from what is shadowed and outlined by hoary hieroglyphics all is as the passing of a decade to the history of the Mayas. It may be asserted from relics that we have an authentic lineage reaching back to the period of 9700 years, or to the remotest of the Egyptian shepherd kings.

EXPLANATION OF ASTRONOMICAL TERMS AND PHENOMENA
PREVIOUS TO SHOWING THE INTERMITTENT DESTINIES OF THE EARTH.

The ecliptic is the apparent path of the sun or the path the earth appears to describe to an observer placed as the sun. It is a celestial circle. The equinoctial is the earth's equator extended to the stars or zodiac and is a celestial circle. The ecliptic makes an angle with the equinoctial of about $23^{\circ} 8'$, which is the sun's greatest declination. The points where these two circles cross are nodes, or equinoctial points. The earth's orbital path is concentric with the earth's celestial equator or equinoctial circle. In astronomy the precession of the equinoxes (the equinoctial points or nodes of equal day and equal night on the earth) is a slow but continual shifting of the equinoctial points from east to west. The earth moves from west to east. The amount of precession or shifting annually is (equal day and equal night take place sooner every year by $50\frac{1}{10}''$) $50\frac{1}{10}''$, i. e., the sun appears to make its revolution sooner every year by $50\frac{1}{10}''$, or makes its revolution in the zodiac sooner than it would if it did not move and there

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